| | Type | L # | Hits | Search Text | DBs | Time Stamp |
|---|------|-----|------|-------------|-----|------------|
| 1 | BRS | L1 | 22 | monolith same enzyme | USPAT | 2002/10/15 11:19 |
| 2 | BRS | L2 | 415 | plug same enzyme | USPAT | 2002/10/15 11:20 |
| 3 | BRS | L3 | 74061 | 210/$.ccls. | USPAT | 2002/10/15 11:20 |
| 4 | BRS | L4 | 17 | 2 and 3 | USPAT | 2002/10/15 11:22 |
| 5 | BRS | L5 | 3380 | monolith | USPAT | 2002/10/15 11:22 |
| 6 | BRS | L6 | 1879 | 210/656-659.ccls. | USPAT | 2002/10/15 11:22 |
| 7 | BRS | L7 | 1643 | 210/198.2.ccls. | USPAT | 2002/10/15 11:22 |
| 8 | BRS | L8 | 730 | 210/635.ccls. | USPAT | 2002/10/15 11:22 |
| 9 | BRS | L9 | 2499 | 6 or 7 or 8 | USPAT | 2002/10/15 11:23 |
| 10 | BRS | L10 | 31 | 5 and 9 | USPAT | 2002/10/15 11:29 |
| 11 | BRS | L11 | 105679 | enzyme | USPAT | 2002/10/15 11:29 |
| 12 | BRS | L12 | 23 | 10 and 11 | USPAT | 2002/10/15 11:37 |
| 13 | BRS | L13 | 223817 | plug | USPAT | 2002/10/15 11:38 |
| 14 | BRS | L14 | 353 | 9 and 13 | USPAT | 2002/10/15 11:38 |
| 15 | BRS | L15 | 66 | 11 and 14 | USPAT | 2002/10/15 11:38 |

|   | Comments | Error Definition | Errors |
|---|----------|------------------|--------|
| 1 |          |                  | 0 |
| 2 |          |                  | 0 |
| 3 |          |                  | 0 |
| 4 |          |                  | 0 |
| 5 |          |                  | 0 |
| 6 |          |                  | 0 |
| 7 |          |                  | 0 |
| 8 |          |                  | 0 |
| 9 |          |                  | 0 |
| 10 |         |                  | 0 |
| 11 |         |                  | 0 |
| 12 |         |                  | 0 |
| 13 |         |                  | 0 |
| 14 |         |                  | 0 |
| 15 |         |                  | 0 |

| | Type | L # | Hits | Search Text | DBs | Time Stamp |
|---|------|-----|------|-------------|-----|------------|
| 1 | BRS | L1 | 22 | monolith same enzyme | USPAT | 2002/10/15 11:19 |
| 2 | BRS | L2 | 415 | plug same enzyme | USPAT | 2002/10/15 11:20 |
| 3 | BRS | L3 | 74061 | 210/$.ccls. | USPAT | 2002/10/15 11:20 |
| 4 | BRS | L4 | 17 | 2 and 3 | USPAT | 2002/10/15 11:22 |
| 5 | BRS | L5 | 3380 | monolith | USPAT | 2002/10/15 11:22 |
| 6 | BRS | L6 | 1879 | 210/656-659.ccls. | USPAT | 2002/10/15 11:22 |
| 7 | BRS | L7 | 1643 | 210/198.2.ccls. | USPAT | 2002/10/15 11:22 |
| 8 | BRS | L8 | 730 | 210/635.ccls. | USPAT | 2002/10/15 11:22 |
| 9 | BRS | L9 | 2499 | 6 or 7 or 8 | USPAT | 2002/10/15 11:23 |
| 10 | BRS | L10 | 31 | 5 and 9 | USPAT | 2002/10/15 11:29 |
| 11 | BRS | L11 | 105679 | enzyme | USPAT | 2002/10/15 11:29 |
| 12 | BRS | L12 | 23 | 10 and 11 | USPAT | 2002/10/15 11:37 |
| 13 | BRS | L13 | 223817 | plug | USPAT | 2002/10/15 11:38 |
| 14 | BRS | L14 | 353 | 9 and 13 | USPAT | 2002/10/15 11:38 |
| 15 | BRS | L15 | 66 | 11 and 14 | USPAT | 2002/10/15 11:38 |

| | Comments | Error Definition | Errors |
|---|---|---|---|
| 1 | | | 0 |
| 2 | | | 0 |
| 3 | | | 0 |
| 4 | | | 0 |
| 5 | | | 0 |
| 6 | | | 0 |
| 7 | | | 0 |
| 8 | | | 0 |
| 9 | | | 0 |
| 10 | | | 0 |
| 11 | | | 0 |
| 12 | | | 0 |
| 13 | | | 0 |
| 14 | | | 0 |
| 15 | | | 0 |

| L Number | Hits | Search Text | DB | Time stamp |
|---|---|---|---|---|
| 1 | 22 | monolith same enzyme | USPAT | 2002/10/15 11:19 |
| 2 | 415 | plug same enzyme | USPAT | 2002/10/15 11:20 |
| 3 | 74061 | 210/$.ccls. | USPAT | 2002/10/15 11:20 |
| 4 | 17 | (plug same enzyme) and 210/$.ccls. | USPAT | 2002/10/15 11:22 |
| 5 | 3380 | monolith | USPAT | 2002/10/15 11:22 |
| 6 | 1879 | 210/656-659.ccls. | USPAT | 2002/10/15 11:22 |
| 7 | 1643 | 210/198.2.ccls. | USPAT | 2002/10/15 11:22 |
| 8 | 730 | 210/635.ccls. | USPAT | 2002/10/15 11:22 |
| 9 | 2499 | 210/656-659.ccls. or 210/198.2.ccls. or 210/635.ccls. | USPAT | 2002/10/15 11:23 |
| 10 | 31 | monolith and (210/656-659.ccls. or 210/198.2.ccls. or 210/635.ccls.) | USPAT | 2002/10/15 11:29 |
| 11 | 105679 | enzyme | USPAT | 2002/10/15 11:29 |
| 12 | 23 | (monolith and (210/656-659.ccls. or 210/198.2.ccls. or 210/635.ccls.)) and enzyme | USPAT | 2002/10/15 11:37 |
| 13 | 223817 | plug | USPAT | 2002/10/15 11:38 |
| 14 | 353 | (210/656-659.ccls. or 210/198.2.ccls. or 210/635.ccls.) and plug | USPAT | 2002/10/15 11:38 |
| 15 | 66 | enzyme and ((210/656-659.ccls. or 210/198.2.ccls. or 210/635.ccls.) and plug) | USPAT | 2002/10/15 11:38 |

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| L Number | Hits | Search Text | DB | Time stamp |
|---|---|---|---|---|
| 1 | 22 | monolith same enzyme | USPAT | 2002/10/15 11:19 |
| 2 | 415 | plug same enzyme | USPAT | 2002/10/15 11:20 |
| 3 | 74061 | 210/$.ccls. | USPAT | 2002/10/15 11:20 |
| 4 | 17 | (plug same enzyme) and 210/$.ccls. | USPAT | 2002/10/15 11:22 |
| 5 | 3380 | monolith | USPAT | 2002/10/15 11:22 |
| 6 | 1879 | 210/656-659.ccls. | USPAT | 2002/10/15 11:22 |
| 7 | 1643 | 210/198.2.ccls. | USPAT | 2002/10/15 11:22 |
| 8 | 730 | 210/635.ccls. | USPAT | 2002/10/15 11:22 |
| 9 | 2499 | 210/656-659.ccls. or 210/198.2.ccls. or 210/635.ccls. | USPAT | 2002/10/15 11:23 |
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US-PAT-NO: 5723601
DOCUMENT-IDENTIFIER: US 5723601 A

TITLE: Super porous polysaccharide gels

DATE-ISSUED: March 3, 1998

US-CL-CURRENT: 536/103; **210/635** ; 210/649 ; 536/112 ;
536/114 ; 536/123.1
; 536/124 ; 73/19.02

APPL-NO:    08/ 302839

DATE FILED:   September 16, 1994

                       FOREIGN-APPL-PRIORITY-DATA:
  COUNTRY              APPL-NO                 APPL-DATE
  SE                   9200827                 March 18, 1992

PCT-DATA:
  APPL-NO:      PCT/SE93/00226
  DATE-FILED:   March 16, 1993
  PUB-NO:       WO93/19115
  PUB-DATE:     Sep 30, 1993
  371-DATE:     Sep 16, 1994
  102(E)-DATE:  Sep 16, 1994

---------- KWIC ----------


Brief Summary Text - BSTX:

The new polysaccharide gels may be produced in various
shapes, for instance
more or less regular beads like spheres, membranes, etc,
and can be used as a
base matrix for the manufacture of chromatographic media,
and as a carrier
matrix in general for various biomolecules like cells,
**enzymes,** antibodies etc.


Brief Summary Text - BSTX:

Only short distances have to be covered by diffusion in the

new materials and
the particles will therefore, in spite of a much larger
particle size, be as
effective as a prior art particle, and still giving rise to
a much lower
pressure drop over the gel bed.  The invention accordingly
discloses a solution
to the problem of how to make polysaccharide gels, useful
also in High
Performance Liquid Chromatography (HPLC).  Another
advantage exhibited by the
new materials is their use in the separation of cells,
chromosomes and other
macromolecules which are too large to have access to the
pores normally found
in polysaccharide gels.  A further advantage is that the
new materials can be
used in electrophoresis, including capillary
electrophoresis, and as a carrier
for catalytically active cells and **enzymes**.  The flow in
macropores, which has
been found to be advantageous in chromatographic
separation, enhances the mass
transport of substrates and products, thereby improving the
catalytic
efficiency.


Detailed Description Text - DETX:

An emulsion according to Example 1 was poured into a
thermostatted (60.degree.
C.) column for chromatography (a glass tube with a diameter
of 1.6 and a height
of 20 cm), sealed in one end with a silicone **plug**.  The
tube was cooled to room
temperature and an agarose gel was formed.  The
cylindrically formed gel **plug**
was pressed out of the tube and the two end surfaces were
cut perpendicular to
the a cylinder axis.  The gel **plug** was then inserted into
the chromatographic
tube which was connected to a peristaltic pump of the type
used in
chromatography.  The organic phase containing the detergent
was removed by
washing the gel with water, 50% ethanol and finally with
another portion of

water.


Detailed Description Text - DETX:

Superporous NAD-agarose particles prepared according to
Example 10 were packed
in a chromatography column (1.6.times.5 cm).  The
NAD-agarose particles had a
diameter of 0.4 mm and a static binding capacity for
lactate dehydrogenase of
10 mg/g gel in the presence of 25 mM oxalate.  Another
column with the same
dimensions was packed with prior art agarose particles
(Example 13) with the
same concentration of NAD-analogs (the substitution was
carried out as in
Example 10.  Both columns had the same particle diameter
and the same binding
capacity.  The columns were compared with respect to their
ability to adsorb
lactate dehydrogenase from a raw extract, in the presence
of 25 mM sodium
oxalate.  50 ml of the raw extract was pumped through each
of the columns with
a speed of 3 or 9.9 ml/min.  The outflow from the columns
was analyzed with
regard to protein concentration and lactate dehydrogenase
activity.  The
columns were then washed and the adsorbed **enzyme** eluted
with 1 mM NADH.  The
following results were obtained:


Detailed Description Paragraph Table - DETL:

```
                                               Adsorbed enzyme
_____
Eluted enzyme   Flow (%
of applied) (% of applied)  ml/min normal superporous
normal   superporous
                                               3.0 90 100 100 90
_____
9.9 50 90 50 90
```

_____


Current US Cross Reference Classification - CCXR:

210/635